

ABSTRACT OF THE DISCLOSURE

An electromagnetic wave detector or an area image sensor comprises a number of pixel units arranged into a matrix form and each pixel unit includes a conversion
5 element for converting incident electromagnetic waves or high energy radiations into an electric charge, a storage capacitor for storing the electric charge produced by the conversion element, a thin film read transistor connected to the storage capacitor, and a
10 thin film reset transistor also connected to the storage capacitor. The pixel units are operated in a storage-read-reset cycle on a row by row basis so that any electric charge left after the read period is expelled in the reset period. To the gates of the read
15 and reset thin film transistors in each pixel are applied ON and OFF voltages at predetermined timings and these voltages are set to values such that any excessive electric charge produced in the storage period is discharged by way of the thin film reset
20 transistor, not by way of the thin film read transistor, in the same storage period.